of the medical class, who became severely salivated from a small dose of calomel. A highly intelligent young gentleman, Mr. J. E. Pierson, at that time one of our pupils, now a respectable physician of Fairfield District, proposed the turpentine, which was accordingly employed, and afforded speedy relief. Since that time we have used it extensively in both hospital and private practice, with the most satisfactory results. It has also been much employed by several of our medical friends, whose testimony in its favour, we are happy to state, fully substantiates our good opinion. We usually direct two drachms of turpentine to eight ounces of gum arabic mucilage, with which the patient is required to gargle frequently in the course of the day. We have, however, in some cases, employed the undiluted turpentine with the same happy effects. It usually occasions, at first, considerable smarting, which, however, is of only temporary duration, and becomes less and less at each successive application. Indeed, in many cases, the smarting is succeeded in a short time by a soothing impression, similar to that which attends the use of the turpentine in cases of burns and scalds.

We will say nothing of the modus operandi of the medicine in cases of salivation, but will merely recommend a fair and impartial trial of it as a remedy for that distressing affection.

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On the Treatment of Ununited Fractures with the Seton. By Isaac Hays, M. D.—In the surgical lectures of William Lawrence, Esq. of London, now in the course of publication in the *London Medical Gazette*, we find the treatment of ununited fractures dismissed in the following cavalier manner. "Another mode of proceeding in these ununited fractures," says Mr. Lawrence, "*has been* that of passing a seton between the broken ends of the bone, and leaving it there, in order to excite in the ends of the bones, and the neighbouring soft parts, that action which is *supposed* to be inefficient. After a certain degree of inflammation has been excited by the seton, it is then to be withdrawn, trusting the union to natural powers. *I believe it may be said that there are some* two or three *instances recorded in which, after some weeks or months of confinement, with a good deal of pain and danger*, the union has been effected in this way; but in other cases the introduction of the seton has failed."

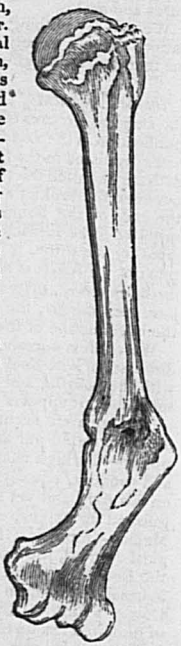
We confess ourselves at a loss how to notice this summary and contemptuous dismissal of a method of treating ununited fractures, and one which, contrasted with the *painful*, and sometimes *fatal* operation for which it was proposed as a substitute, it appears to us, can hardly be too highly extolled.

The apparent accuracy with which the lectures are given in the Gazette, seems to forbid our ascribing so material a misstatement to an error of the reporter—the high character Mr. Lawrence has hitherto sustained for fairness and candour, equally prohibits the imputation of intentional misrepresentation on his part, and yet it is impossible to suppose that Mr. L. who is distinguished for extensive erudition, should be ignorant of cases published in the Medico-Chirurgical Transactions of London, the Edinburgh Medical and Surgical Journal, the London Medical Repository, the Medico-Chirurgical Review, the London Medical and Physical Journal, the London Medical and Surgical Journal, the Dublin Hospital Reports, Charles Bell's Operative Surgery, and Cooper's Surgical Dictionary, in which no less than thirteen different cases of ununited fractures *successfully treated by the seton* are related. Be the case, however, as it may, the statement has been put forth as coming from Mr. Lawrence, and until disavowed, subjects him to the charge of ignorance or want of candour; we therefore think we are performing an act of kindness to him, in calling his attention to this subject, that it may be explained; and at the same time as an act of justice to the eminent surgeon who devised the method of cure under consideration, we shall give a brief summary of such cases of ununited fracture successfully treated by the seton, as we find in the works in our private library, not having time at the present moment to have recourse to more extensive sources of information.

The use of the seton as a means of curing ununited fractures, was originally

suggested, as is acknowledged, by Dr. P. S. Physick, of Philadelphia,* and first put in practice by him on the 18th of December, 1802. The subject of this case was a sailor twenty-eight years of age, admitted into the Pennsylvania Hospital in the preceding May, in consequence of having fractured his left arm above the elbow-joint a year previously, and the bones not having united, his arm was nearly useless. A seton needle was passed between the fractured ends of the bone; "*the patient suffered very little pain from the operation;*" "after a few days the inflammation, (*which was not greater than what is commonly excited by a similar operation through the flesh, in any other part,*) was succeeded by a moderate suppuration," and at the end of five months, the arm was as well and strong as it had ever been. The account of this case first appeared in the Medical Repository of New York, Vol. I. 2d Hexade, 1804, and was republished entire in the *Medico-Chirurgical Transactions of London*, Vol. V. 1819.

The subject of this case died in Philadelphia only a few months since, and we have his left humerus now before us. He was attended during his last illness, by our friend, Dr. J. Randolph, who, knowing him to be the person upon whom Dr. Physick had operated twenty-eight years ago for artificial joint, obtained leave to make a post mortem examination, and procured the humerus in question. Dr. Randolph has kindly lent us this valuable pathological specimen, and granted us permission to have a drawing of it made. The annexed sketch is an accurate representation of its present appearance. The bone is nearly straight, and at the place of fracture there is a considerable mass of bony matter, through the centre of which there is a hole† large enough to admit a small quill, which no doubt was made by the introduction of the seton; and of course shows the place through which it passed. A short time before his death the patient assured Dr. Randolph that his left arm was as strong as the other, and that he had not since the union of the fracture suffered any inconvenience from the accident.



Mr. B. C. Brodie has published in the fifth volume of the *Medico-Chirurgical Transactions of London*, a case of ununited fracture of the femur of a boy aged thirteen, in which he resorted to the seton. "After the operation," says Mr. Brodie, "there was a good deal of pain in the thigh, *which however subsided in a few hours. No considerable inflammation followed the introduction of the seton.*" The two ends of the bone became firmly consolidated by bony union.

In the volume of the Transactions just quoted, James Wardrop, Esq. also relates a case of ununited fracture of the thigh bone in which he employed the seton; but it was "not in this instance so *permanently successful* as in the case narrated by Dr. Physick." The ill health of the patient prevented its effecting a complete cure.

Josiah Stansfield, Esq. of Leeds, has recorded in the seventh volume of the *Medico-Chirurgical Transactions of London*, a case of ununited fracture of the os humeri in a stout healthy man aged forty-eight. The fracture had been produced on the 4th of December, 1814, and in July, 1815, when the patient was admitted into the Leed's Infirmary, "the arm continued

* It is not a little extraordinary, that in the last edition of Cooper's Surgical Dictionary, *reprinted in New York*, and *edited by an American surgeon*, that Dr. Physick should be twice referred to, in the article on fractures, as Dr. Physick *of New York!* The editor surely cannot have read the article, or he would not have permitted so gross an error to be perpetuated.

† Imperfectly represented in the drawing.

in a useless state." The fracture was very oblique. The seton was introduced on the 28th of July. "On the following day the patient was in very great pain, and had a smart attack of fever, which induced me to take off the dressings, and apply a bread and milk poultice, adopting at the same time the antiphlogistic regimen. This plan was continued till the inflammation had subsided, and suppuration was completely established. During the first fortnight, the slightest motion of the arm gave him very acute pain;" but by the 16th of August it became comparatively easy, and no further inconvenience appears to have been suffered. On the third of November the patient "could carry his arm to the back of his head, his arm feeling as strong and useful as before the accident."

In the volume of the Medico-Chirurgical Transactions just quoted, a "case of gunshot wound and fracture of the tibia, in which a seton was successfully employed in promoting a cure," is related by John Boggie, Esq.

John Browne, Esq. M. D. treated in the Meath Infirmary a case of ununited fracture of the tibia in a man aged sixty. The limb had been fractured on the 3d of August, 1825, and on the 5th of November, bony union not having taken place, the seton was resorted to. In the report of the 7th of November, it is said that "there had been *slight uneasiness* in the parts," and in that of the 17th of December, it is stated that the patient "had for a week experienced much irritation, pain, and interruption of rest; the openings were spongy, and covered with large soft granulations." Nothing more is said of any inconvenience from the remedy, and on the 19th of January, 1826, the "fracture was firmly united."

Mr. Henry Lyford had placed under his care in the Bath Hospital, a boy whose right os femoris had been fractured eleven months before, and so slight was the union that had taken place "that the disunited portions of bone could be made to form an obtuse angle, and that without producing the slightest pain or inconvenience." Mr. Lyford introduced a seton between the fractured ends of the bone on the 12th day after admission into the hospital. No inconvenience is noticed as having been experienced until the 13th day, when it is stated in the report, that "the patient had passed a very restless night, accompanied with frequent rigors, considerable pain in the thigh, which is much swollen." The following day "the irritative fever had much subsided;" "the pain in the thigh was much relieved," and at the expiration of six weeks after the operation, the patient was discharged cured. This case will be found in the *London Medical and Surgical Journal* for July, 1829.

Mr. Charles Bell, in the second edition of his Operative Surgery, after noticing an operation he had proposed for the cure of artificial joints, speaks of the use of the seton for that purpose in the following terms. "I am happy on this occasion of describing the method pursued by Dr. Physick of Philadelphia to revive ossific disposition. This is not like what I have written, a mere proposal; but an operation successfully performed, and happy in its result, as is the ingenuity shown in devising it." Mr. Bell then notices four cases in which Dr. Physick had employed the seton; the first, that of the sailor of whom we have already spoken; second, a case of fractured humerus, the result of which was not known to Mr. Bell; third, a case of ununited tibia, in which "Dr. Physick passed the seton nineteen months after the accident, and in three months the bony union was complete;" and fourth, an ununited fracture of the arm, in which the seton was completely successful.

Mr. Bell also alludes to two other cases, one an ununited fracture of the femur, in which a surgeon introduced a seton, but without effecting a cure; the seton, however, was removed much too early, having only been allowed to remain three weeks: lastly, that of a boy six years of age, who broke his leg three years before. In this case Mr. Bell says, "I have passed the seton, and expect that in due time the operation will be successful."

Dr. C. A. Weinhold, Professor of Clinical Surgery at the University of Halle, has published in the Journal der Practischen Heilkunde for May, 1826, three cases of ununited fractures successfully treated by him with the seton. Not

having the Journal alluded to, we derive the following sketch of the cases from the *Edinburgh Medical and Surgical Journal* for April, 1827. The first case occurred in a coachman who fractured his left leg near the ankle; at the end of eight weeks a perfect false joint was formed. A seton was introduced, and a thoroughly complete cure was effected. The second instance was in a youth twenty years of age, whose thigh bone had been fractured when he was ten years of age, and had never united; a seton was introduced, and "on the sixteenth week the patient was dismissed completely cured." The third was a case of artificial joint of the thigh bone and which was cured by the seton. No notice is taken in the account of these cases, of any great pain or danger resulting from the operation.

Cooper, in his Surgical Dictionary, states that a case of ununited fracture of the lower jaw cured by the seton, is related in the *London Medical Repository* for August, 1823; not having the Journal to refer to, we cannot give any of the particulars of the case.

Dr. Dohldorf relates in the Report of the Medico-Surgical Institution of Madgeburgh, a case of ununited fracture of the thigh-bone, near its middle. A seton was introduced between the ends of the bone, which was followed by so considerable a degree of inflammation, that it was thought necessary to remove the seton. There was profuse suppuration, fistulous abscesses formed beneath the muscles, and the life of the patient was supposed to be in jeopardy. Whether these evils resulted from the seton, or from other causes, does not appear from the notice in the *Bulletin des Sciences Médicales*, from which we derive our knowledge of the case. However, complete union of the fracture was effected.

Mr. Cooper, in his Surgical Dictionary, states that a case of ununited fracture cured by Baron Percy with the seton, is related by Dr. Laroche, in a memoir published some years ago in Paris.

Dr. Physick, in 1822, employed the seton, with success, in an ununited fracture of the lower jaw, and an account of the case, written by the patient, will be found in the Philadelphia Journal of the Medical Sciences, Vol. V. The patient states that his lower jaw was fractured, March 20th, 1820, in two places, on the right side transversely, and on the left obliquely. The transverse fracture healed, but the other fracture remained ununited at the end of two years, which caused "great inconvenience from the pain occasioned by the motion of the fractured parts in the broken jaw, whenever I attempted to bite any substance as hard as a crust of bread. My bodily strength gradually decreased, as I had a very sickly appetite, and was rendered incapable of receiving proper nourishment. My frame being debilitated in this manner, I seriously felt the effects of changes in the weather, and every time I contracted a cold it settled in my jaw, and rendered the broken parts so sore, that for some days afterwards I was unable to eat any thing except spoon victuals, and from the slight hopes I entertained of ever recovering from this misfortune, I was rendered truly unhappy, and felt wretched, when compelled to enter into any of my usual avocations." Dr. Physick introduced a seton, and "at the expiration of eight weeks, the outside of the bone became very much inflamed, and continued so for three or four days, accompanied with very acute pain, after which the pain subsided, and the inflammation decreased." In the course of the eleventh week, union of the fragments had become consolidated, and the cure was soon completed.

Dr. Physick has likewise successfully employed the seton in other instances of ununited fractures; no details of which have, however, been made public, the utility of the remedy appearing to him so well established that no additional evidence seemed necessary, and he therefore preserved no records of the cases.

That the remedy has failed in some instances is certain, but what remedy is always successful, and the want of success in some instances is attributed by Dr. Physick to the improper mode in which the operation was performed, and in others to the seton not having been continued a sufficient length of time. Dr.

Physick recommends the operation to be performed with a very long seton needle, armed with a silk ribbon or French tape; this needle should be passed *through the integuments*, and between the ends of the bone: he considers this mode preferable to cutting down to the bone with a scalpel, as has been done by some surgeons. The seton ought to be left in the wound for four or five months, or even longer if necessary.

Professor Weinhold ascribes the imperfect success of Mr. Wardrop's case, and also that described by Mr. Hutchinson in his Practical Observations on Surgery, to the imperfect manner of performing the operation. He thinks that the ordinary seton thread on the one hand excited too little reaction, and on the other promoted the tendency to caries, by admitting the external air to the bone; he therefore proposes to employ a conical or cuneiform seton, by which greater irritation is maintained than by the ordinary seton, while the entrance of air by the external wound is always prevented.*

Had we more extensive means of reference, there is reason to believe that more successful cases of artificial joint cured by the seton might be collected. A sufficient number have, however, been adduced, to prove that the expression of a vague belief that it may be said that some *two* or *three instances* are recorded in which, after some weeks or months of confinement, and a *good deal of pain and danger*, the union has been effected by the seton, is far from being justified by the history of the operation. In fact, the histories of the different operations for artificial joint show incontestibly, that the seton is infinitely less painful than any other—except perhaps pressure, as recommended by Mr. Amesbury —and as often, if not more frequently effectual. The profession should then be disabused of any prejudices against it, which the remarks of Mr. Lawrence may have created, and just credit awarded to the eminent and ingenious surgeon by whom the operation was devised and first executed. It is not the least of the many improvements for ameliorating the sufferings of mankind, for which the world are indebted to one who has long been the greatest ornament and pride of the profession in this country.

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Professor Mott's case of Exsection of the Clavicle. (Extract of a letter from Dr. A. F. Vaché of New York to Dr. Hays.)—You express a desire for a continuation of the case of exsection of the clavicle, or rather for a report of its result. It gives me much pleasure to state its successful termination, and the perfect health of the gentleman upon whom it was performed. About two months ago, while on an excursion of pleasure to New York, he called at Dr. Mott's and I examined his shoulder. He remarked that he continued to wear the mechanical contrivance until the anniversary of the performance of the operation, when he laid it aside, not finding it any longer necessary. On examination, I found that the small acromial portion of the clavicle, which had not been removed by the operation, had formed permanent adhesions with the surrounding parts, and maintained the shoulder in its natural position. He had perfect use of the arm in all its motions, and the cicatrix was all that appeared to indicate any operation ever having been performed.

New York, September 11.

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Ligature of the Carotid for Anastomosing Aneurism in a child three months old.—In our fifth volume, page 255, we announced Dr. Mott's having performed this operation. The following extract from a letter recently received from our friend Dr. A. F. Vaché, of New York, gives further particulars of this interesting case. "You wish to be informed of the termination of the case of the infant whose carotid artery was tied for an aneurism by anastomosis, involving both orbits, the nose, and part of the forehead, and in whom it was intended to tie the other should the first not prove curative. After the operation the

* Edinburgh Medical and Surgical Journal, Vol. XXVII.